

INTELLIGENT TRANSPORTATION APPLICATION

General Instructions:

This Excel form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments (MAG) for Bicycle Projects to be included in the FY2014-FY 2018 MAG Transportation Improvement Program. Funding is available for Federal Fiscal Year (FFY) 2015, 2016 and 2017.

This application form includes:

- Part A - Contact and Project Description,
- PART B - ITS TIP Listing and CMAQ Score Data,
- PART C - ITS project Description,
- Part D - Checklist and Signature Page, and Transmittal Instructions and Schedule.

Each part is a separate tab of this excel file. Please complete Parts A - D. Alternative application forms are available upon request.

Deadlines and Transmittal Instructions:

Two copies of a printed, complete and signed application must be received in the MAG offices by **10:00 a.m. Wednesday, September 19, 2012**. The application is to be submitted electronically and should include ArcGIS shape files depicting the project location if they are available.

Detailed transmittal instructions are located in a separate tab in this excel sheet. Late applications **will not be accepted**.

If member agencies need additional information or have questions, they should contact Teri Kennedy or Stephen Tate at (602) 1

<mailto:state@azmag.gov>
<mailto:tkennedy@azmag.gov>
<mailto:LLuo@azmag.gov>

All information is required, unless noted by the word - Optional.

PART A - CONTACT AND PROJECT DESCRIPTION

Contact Information

1. Sponsoring Agency	City of Phoenix
2. Contact Name	Marshall Riegel P.E.
3. Phone	602 534 5351
4. E-Mail Address	marshall.riegel@phoenix.gov
5. Mailing Address	200 W. Washington Street, Phoenix, AZ

(OPTIONAL)

If the applicant will be providing a GIS coverage (shapefile or geodatabase), please see the tab labeled "GIS Transmittal Instructions)

[GIS Submittal Instructions](#)

ITS Application from City of Phoenix for 'DTMS Expansion'

PART B-ITS TIP Listing and CMAQ Score Data

This part of the form identifies data to calculate an CMAQ Score and provide the minimum data needed for a listing of the project in the Transportation Improvement Program

Federal Funding Eligibility

All ITS projects to be funded with Federal CMAQ funds must be in the 8-Hour Ozone Nonattainment Area. Please use the following link to verify that the map is located in the nonattainment area:

[Link to an 8-Hr Ozone Nonattainment Map on the MAG Website](#)

1. Traffic Estimate and Roadway Characteristics

a. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type:

b. Please Describe how the ADT was estimated:

Traffic count performed

c. When was the ADT estimate developed:

7/2/1905

Approach Volumes at Grand Ave, SB, NW of 7th Ave, 7th St. NB south of Buckeye Rd, 7th St. NB south of Van Buren St, 7th St SB north of Buckeye Rd, Lincoln St. WB east of 7th Ave

d. Name of the Roadway Section Used for the ADT Estimate:

e. Starting Limit of the Roadway Section:

I-10 on the east

f. Ending Limit of the Roadway Section:

I-17 on the West

g. Length (Miles)

12

h. Total Number of Through Lanes on the Roadway Section:

4

i. Federal Functional Classification of the Roadway Section:

Principal Arterial - Other

[Link to Functional Classific](#)

2. Traffic Coordination Improvements. If the project improves traffic signal coordination, please

a. Enter the pre-improvement (current) traffic speed of the traffic corridor:

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
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<input type="checkbox"/>	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
<input type="checkbox"/>	Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
<input type="checkbox"/>	Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
<input type="checkbox"/>	Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
<input type="checkbox"/>	Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

3. Other Improvements. Check all that apply:

- ☒ Includes Traffic Signal Improvements for a Single Agency
- ☐ Includes Traffic Signal Improvements that Apply to More than One Agency
- ☐ Includes FMS Improvements
- ☐ The Project Conforms to Local Land Use Plans
- ☐ Adds Traffic Signals that increase pedestrian crossing time for seniors

4. Traffic Speed Impacts of the Project (Not required for Traffic Coordination Improvements)

- a. Enter the pre-improvement (current) traffic speed of the traffic corridor:
- b. Enter the post-improvement (current) traffic speed of the traffic corridor:

ITS Application from City of Phoenix for 'DTMS Expansion'

PART C -ITS project Description

Please enter project data ONLY in highlighted cells, save the file with the lead agency name in it - ie. City 0 ITS Projects.xls
 Submit this Excel workbook to MAG via email to: lluo@azmag.gov
 Please use one worksheet per project, with the tab at the bottom indicating agency priority -- Mesa1, Mesa2,.. etc.
 Links to various websites are provided for additional information and help
 The worksheet titled "Example" shows an example on how to enter Data in the highlighted areas

Please enter required information in highlighted cells

A. Project Title & Sponsor

Lead Agency	City of Phoenix
Other Partnering Agencies	
ITS Project Title:	DTMS Expansion
Project Category:	Arterial ITS

B. Project Goals & Objectives

Project Goals:

To enhance and improve downtown ingress to, and egress from multiple downtown special events by providing additional traveler information to the motoring public consisting of, by way of example, but not limited to, travel times, delays, construction, special events, detours, incidents and weather conditions and public service messages and amber alerts. This project can potentially lead to reduce energy consumption, reduced delays and reduced emissions.

Objectives:

The current system controls traffic in the immediate vicinity of the special event venues. The objective is to upgrade the existing system software and add additional DMS to provide additional traveler information for both ingress and egress for special events at critical decision points on the travelers path to provide information to allow for alternate route choice to reduce congestion. As the egress is typically more concentrated over a short time, providing information to allow for alternate route choice will reduce downtown congestion and vehicle emissions by facilitating rapid dispersion of concentrated vehicle points to major arterials and surrounding freeways by adding in additional routes.

C. Project Information

A total of approximately 5 locations.

In the downtown area bounded by I-10 to the north, I-17 to the south, I-10 to the east and I-17 to the west, 2 new DMS will be added at the following locations for inbound patterns, Grand Ave (SB) prior to 7th Ave., and 7th St. (NB) prior to Buckeye Rd., and for 3 new DMS outbound at 7th St. (NB) prior to Van Buren St., 7th St (SB) prior to Buckeye Rd., and Lincoln St. (WB) prior to 7th Ave. In addition the Downtown Traffic Management System will be upgraded to accommodate the new signs and improve operator use of the new signs and existing signs.

Scope of the project:

The City of Phoenix Police use the existing DTMS system extensively to control traffic after large special events held downtown. The existing software and hardware will be upgraded/expanded to provide additional flexibility for controlling ingress and egress to the special events. The current system is concentrated in the immediate downtown area and does not provide traveler information at key decision points to promote alternate route choice for inbound traffic nor more importantly, for outbound traffic to seek alternate routes to the freeways. The project will add 3 DMS at critical decision points to encourage use of alternate access to I-10 and I-17 as well as Grand Ave.

D. Identify Components in MAG Regional ITS Architecture

ITS applications	Relevant Applications (ENTER: Yes or No)	Applicable ITS Market Packages http://www.azmag.gov/ITS/	Note: Please attach the Architecture Flow Diagram in the application
1. Traffic Management	YES	ATMS06	
2. Transit Operations Support	YES	ATMS06	
3. Communications	YES	ATMS06	
4. Traveler Information	YES	ATMS06	
5. Archived Data Management	NO		
6. ITS for Safety	NO		
7. ITS Plans	NO		
8. Freeway-Arterial Operations	NO		

E. Program Year Preference

First Choice ☐ FY2015 ☐ FY2016 ☒ FY2017
Second Choice ☐ FY2015 ☒ FY2016 ☐ FY2017
Third Choice ☒ FY2015 ☐ FY2016 ☐ FY2017

F. Project Budget

	Federal Cost	Local Match (min 5.7%)	Total Cost
Amount	\$566,507.00	\$34,243.00	\$600,750.00
Cost percentage	94.3%	5.7%	

G. Project Schedule

The table below is provided as a tool to assist local agencies develop a project planning schedule. Column A shows standard project milestones and Column B shows the schedule based on a typical project procurement process. To generate a custom Project Schedule:(1) select applicable milestones in Column C;(2) Enter estimated time to complete milestone measured in months from project development start date in Column D; **NOTE: The project obligation date generated in cell E111 MUST occur before Sept 15th of the programmed fiscal year.** Determine the appropriate **Project Activity Start Date** (by trial-and-error) in order to obligate the project on time.

Standard Project Milestones	Default Schedule for Process	Applicable Milestones (ENTER - Yes OR No)	Estimated Time to Milestone (ENTER #Months)	Estimated Date
Apply for ADOT project number				Dec-2015
Receipt of ADOT project number	Feb-2016			NA
Initial DCR	Mar-2016			NA
Final DCR	Apr-2016			NA
30% Preliminary Plans, Cost Estimate and Report	Jun-2016			NA
60% Preliminary Plans, Cost Estimate and Report	Aug-2016			NA
Final Preliminary Plans, Cost Estimate and Report	Oct-2016			NA
Environmental Clearance	Aug-2016			NA
Utility Clearance	Sep-2016			NA
Right-of-Way Clearance	Jun-2016			NA
Approval of IGA	Dec-2016			NA
Obligation authority of Federal funds	Jan-2017			NA
Advertised Date	Mar-2017			NA
Final Deployment	Sep-2017			NA

< ENTER mm/yyyy -- Project Activity S

H. System Maintenance and Operations

Current staff resources available for ITS operations at the local	7
Additional staff resources required for fully utilizing features added by	0
Estimated current annual ITS operations & maintenance budget	\$50,000
Estimated additional annual operations & maintenance funds required	\$2,000
Estimated DATE from when required additional O&M funds will be	Sep-2020

Other comments:

While the annual ITS Operations and Maintenance Budget is currently funded at \$50,000 for ITS purposes exclusively, the ITS devices are part of the Traffic Signal Section for operation and maintenance and are equally supported along with the over 900 signalized intersections and the TMC with the full budgeted resources of Traffic Signal Section.

I. Systems Engineering Analysis Requirement

Commitment to address the federal requirement for Systems Engineering Analysis:
Agency's intent to follow the process described in the 'V' diagram during the project development process

COP commits to follow the SEA process.

<http://www.azdot.gov/Highways/TTG/PDF/SystemsEngineeringChecklist.pdf>

MAG CMAQ Project

Intelligent Transportation Systems Project

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
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A. SCOPING (15% Preliminary Engineering Design) (Non-infrastructure projects: Only #2 applies).

1. SITE TOPOGRAPHIC SURVEY	LS	0	\$50,000.00	\$0.00	No
2. PROJECT ASSESSMENT REPORT or DETAILED WORKPLAN	LS	1	\$5,000.00	\$5,000.00	No
3. SYSTEMS ENGINEERING ANALYSIS (must address FHWA requirements)	LS	1	\$8,000.00	\$8,000.00	No
4. ENVIRONMENTAL DETERMINATION (Infrastructure projects, including technical supporting documents)	LS	1	\$20,000.00	\$20,000.00	No
5. HAZMAT ASSESSMENT	LS	1		\$0.00	No
SUBTOTAL – PROJECT SCOPING COSTS				\$33,000.00	\$0

B. FINAL PRELIMINARY ENGINEERING DESIGN - Stages II, III, IV and PS&E (Not applicable to non-infrastructure projects)

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
1. Right-of-Way Acquisition	LS	0		\$0.00	No
2. Plans, Special Provisions or Bid Manual, Cost Estimate & Schedules.	LS	1	\$75,000.00	\$75,000.00	No
3. GEOTECHNICAL INVESTIGATION and Materials & Pavement Design Report	LS	0		\$0.00	No
4. DRAINAGE REPORT	LS	0		\$0.00	No
5. Storm Water Pollution Prevention Plan (SWPPP)	LS	0		\$0.00	No
SUBTOTAL – PROJECT DESIGN COSTS				\$75,000.00	\$0

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
C. CONSTRUCTION OR IMPLEMENTATION					
For non-infrastructure projects (no ground disturbing activities), address only parts 2, 3 and D.					
1. CONSTRUCTION ELEMENTS (Insert additional rows if necessary)					
Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
Structure for DMS (Pole & Foundation)	EA	5	\$25,000	\$125,000	Yes
DTMS Control System	EA	1	\$60,000.00	\$60,000	
Power Pedestal for DMS	EA	5	\$8,000.00	\$40,000	Yes
				\$0	Yes
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
SUBTOTAL - CONSTRUCTION				\$225,000	\$165,000
2. PROCUREMENT (Insert additional rows if necessary)					
Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
DMS Assembly (includes cabinet and controller)	EA	5	\$60,000	\$300,000	Yes
Ethernet Switch	EA	5	\$1,500	\$7,500	Yes
				\$0	Yes
				\$0	Yes
				\$0	Yes
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No
				\$0	No

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
SUBTOTAL - PROCURMENT				\$307,500	\$307,500

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
3. OTHER ITEMS (Insert additional rows if necessary)					
Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
				\$0.00	No
SUBTOTAL - OTHER CONSTRUCTION LINE ITEMS				\$0.00	\$0
4. MOBILIZATION AND ADMINISTRATION COSTS (Construction Only. If Section 1 is filled out, please fill out this section)					
Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
CONTRACTOR MOBILIZATION	LS	1	\$27,000.00	\$27,000.00	Yes
TRAFFIC CONTROL	LS	1	\$22,500.00	\$22,500.00	Yes
CONSTRUCTION SURVEY & LAYOUT	LS	0		\$0.00	No
CONSTRUCTION CONTINGENCIES	LS	1	\$45,000.00	\$45,000.00	Yes
CONSTRUCTION ADMINISTRATION	LS	1	\$33,750.00	\$33,750.00	Yes
SUBTOTAL – MOBILIZATION & ADMINISTRATION COSTS				\$ 128,250	\$128,250
TOTAL CONSTRUCTION OR IMPLEMENTATION COST				\$ 660,750	\$ 600,750
D. ADOT Fee for PE Reviews and Staff Charges	LS	1	\$5,000	\$5,000	No

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
TOTAL ADOT Fee COST				\$5,000	\$0
E. TOTAL PROJECT COST (All <u>subtotals</u> + ADOT local projects review fee)				\$773,750	\$600,750

Item Description	Unit	Quant.	Unit Prices	Total	Eligible for CMAQ?
F. SUMMARY OF FEDERAL AND NON-FEDERAL FUNDS					
TOTAL COST FOR PROJECT CONSTRUCTION/IMPLEMENTATION					\$773,750
TOTAL COST FOR PROJECT ELIGIBLE FOR FEDERAL REIMBURSEMENT					\$600,750
TOTAL FEDERAL FUNDS @ 94.3% (.943 x Total Eligible Cost shown highlighted above)					\$566,507
LOCAL AGENCY MATCHING FUNDS (.057 x Total Cost shown highlighted above)					\$34,243
LOCAL AGENCY FUNDS <u>NOT</u> ELIGIBLE FOR FEDERAL REIMBURSEMENT					\$173,000

PART D - SIGNATURE AND CHECKLIST

As the jurisdiction's manager/administrator or designated representative, I certify that this application is accurate and complete and that the project will be included in the sponsoring MAG member agency's local CIP/TIP if the project is selected for federal funding.

Signature: *R Naimark*

Name: Rick Naimark

Title: Deputy City Manager

Date: September 18, 2012

WILL FILL OUT AFTER QUESTIONS APPROVED.**Checklist - OPTIONAL**

This check list is optional, but is included to facilitate applicant review and verification that all required fields in the form have been completed.

PART A - Contacts and Project Description Fields**Complete?**

Contact Information, fields 1 – 5 are complete

PART B - TIP Listing and CMAQ Score Data**Complete?**

1. Traffic Estimate and Roadway Characteristics - Fields a - I are complete

2. Traffic Coordination Improvements - as applicable table is complete

3. Other Improvements - As applicable all fields are completed

PART C - Total Project Schedule and Budget Including All Segment Fields**Complete?**

Section A is Complete

Section B is Complete

Section C is Complete

Section D is Complete

Section E is Complete

Section F is Complete

Section G is Complete

Section H is Complete

Section I is Complete

PART D - Signature Page Fields**Complete?**

Form is signed

Name, title and date fields are completed.

ITS Application from City of Phoenix for 'DTMS Expansion'

City of Phoenix Street Transportation

DTMS

